

## Andrological emergencies

**Definition:** Any disease can interfere with normal sexual life or fertility of men is considered as an andrological emergency (author opinion).

**Table 4- 57: Causes of andrological emergencies**

Common	Less common(author opinion)
<ol style="list-style-type: none"> <li>1. Testicular torsion.</li> <li>2. Ischemic priapism.</li> <li>3. Fracture penis.</li> <li>4. Fournier's gangrene.</li> <li>5. Paraphimosis.</li> </ol>	<ol style="list-style-type: none"> <li>1. Pediatric andrologic emergencies.               <ul style="list-style-type: none"> <li>• Ambiguous genitalia.</li> <li>• Micropenis</li> </ul> </li> <li>2. Acute prostatitis.</li> <li>3. Hemospermia.</li> <li>4. Testicular tumors.</li> </ol>

### Testicular torsion

**Definition:** Rotation of the testis around its long axis due to twisting of the spermatic cord. So, it is actually a torsion (twisting) of spermatic cord rather than the testis.

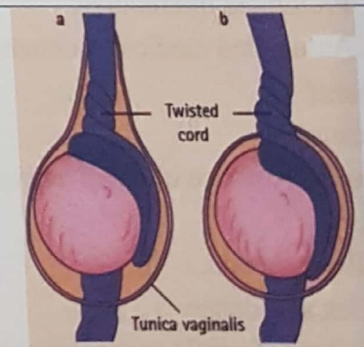
### Pathophysiology

Torsion initially obstructs venous return results in **reduced arterial blood inflow with subsequent testicular ischemia and infarction**. The degree of ischemia depends on the duration of torsion and the degree of rotation of the spermatic cord. Ischemia can occur as soon as four hours after torsion and is almost certain after 24 hours.

**Table 4-58: Types of testicular torsion**

Intravaginal torsion	Extravaginal torsion
It occurs in neonates(first 10 days of life)	It occurs in children and adult.
During this period the tunica vaginalis are to move inside the scrotum and may undergo torsion together inside the scrotal sac.	Tunica vaginalis is fixed to scrotal wall. Testis only undergoes torsion inside the tunica vaginalis.

**Figure 4- 59: Classification of types of testicular torsion: (a) intravaginal torsion and (b) extravaginal torsion**



### Presentation

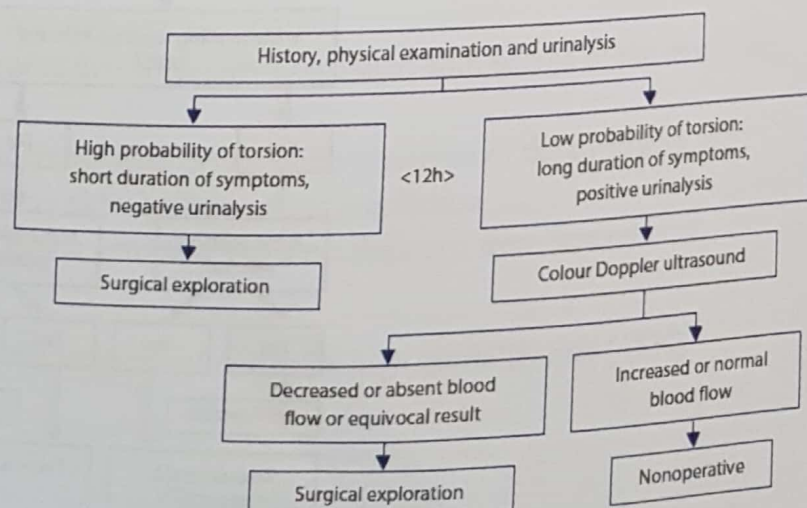
1. History of trauma.
2. Severe unilateral scrotal pain.
3. Nausea and vomiting but **No fever**.

4. Scrotal skin is edematous and erythematous.
5. Twisted testis is elevated and abnormal position.
6. **Elevation of the testis with the patient in a supine position may worsen the pain (Prehn's sign).** This may be a useful sign to differentiate the diagnosis from epididymo-orchitis, in which the pain gets better with elevation.
7. Absence of the cremasteric reflex.

Table 4- 59: Differential diagnosis (Causes of acute scrotal pain)

Cause	Description
<b>Common Causes</b>	
<b>Testicular Torsion</b>	See text
<b>Torsion of testicular appendages</b>	The hydatid of Morgagni is a common testicular appendage embryologically derived from the Müllerian duct. Torsion of the appendix testis is more common in children than testicular torsion and may be diagnosed by the "blue dot sign" (i.e., tender nodule with blue discoloration on the upper pole of the testis).
<b>Epididymitis</b>	In adult men, epididymitis is more common than torsion. The patient typically presents with rapidly progressive scrotal pain and swelling which radiates up the spermatic cord and to the lower abdomen. The overlying skin may be erythematous and the inflammatory process may give rise to a reactive secondary hydrocele.
<b>Testicular trauma</b>	
<b>Strangulated Inguinal hernia</b>	
<b>Less common causes</b>	
<ol style="list-style-type: none"> <li>1. Testicular Cancer (5% of testicular pain cases)</li> <li>2. Familial mediterranean fever</li> <li>3. Vasculitis due to Henoch Schonlein Purpura</li> <li>4. Acute Appendicitis.</li> <li>5. Diverticulitis.</li> <li>6. Hydrocele.</li> </ol>	

Figure 4-60: Management protocol for the acute scrotum (modified from Galejs and Kass 1999)





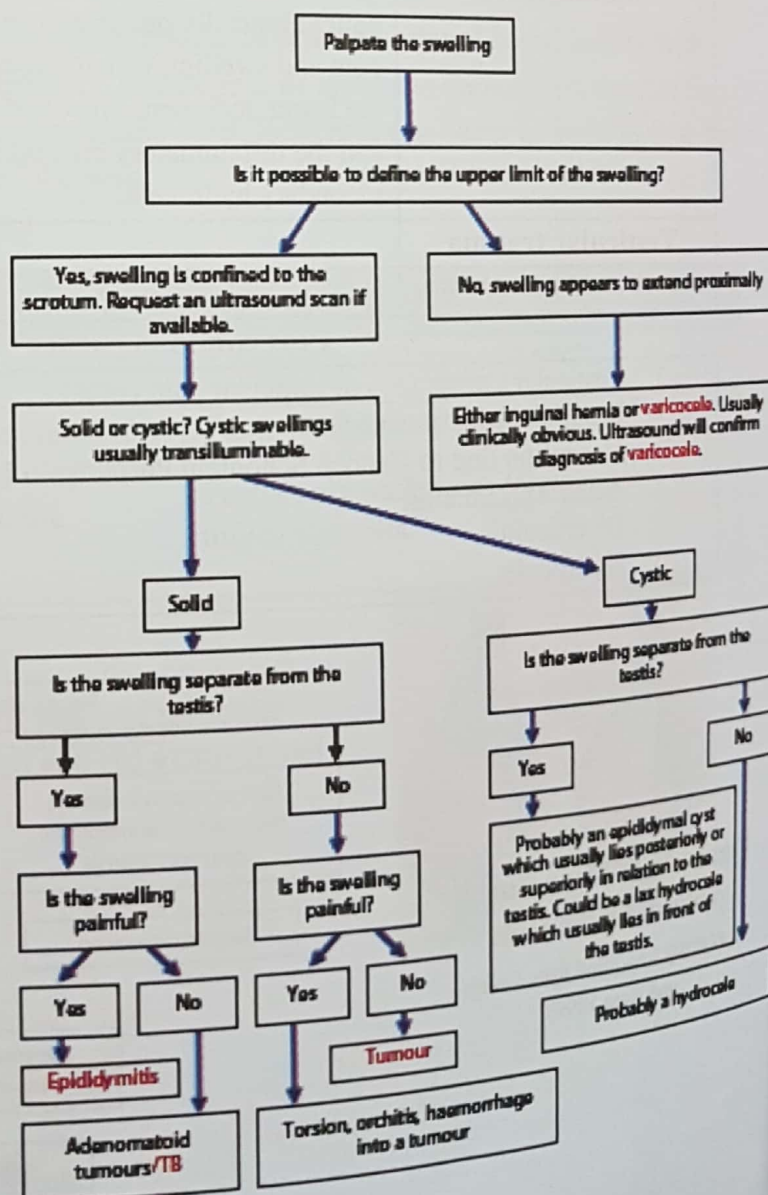
## N.B: Causes of chronic testicular (scrotal) pain

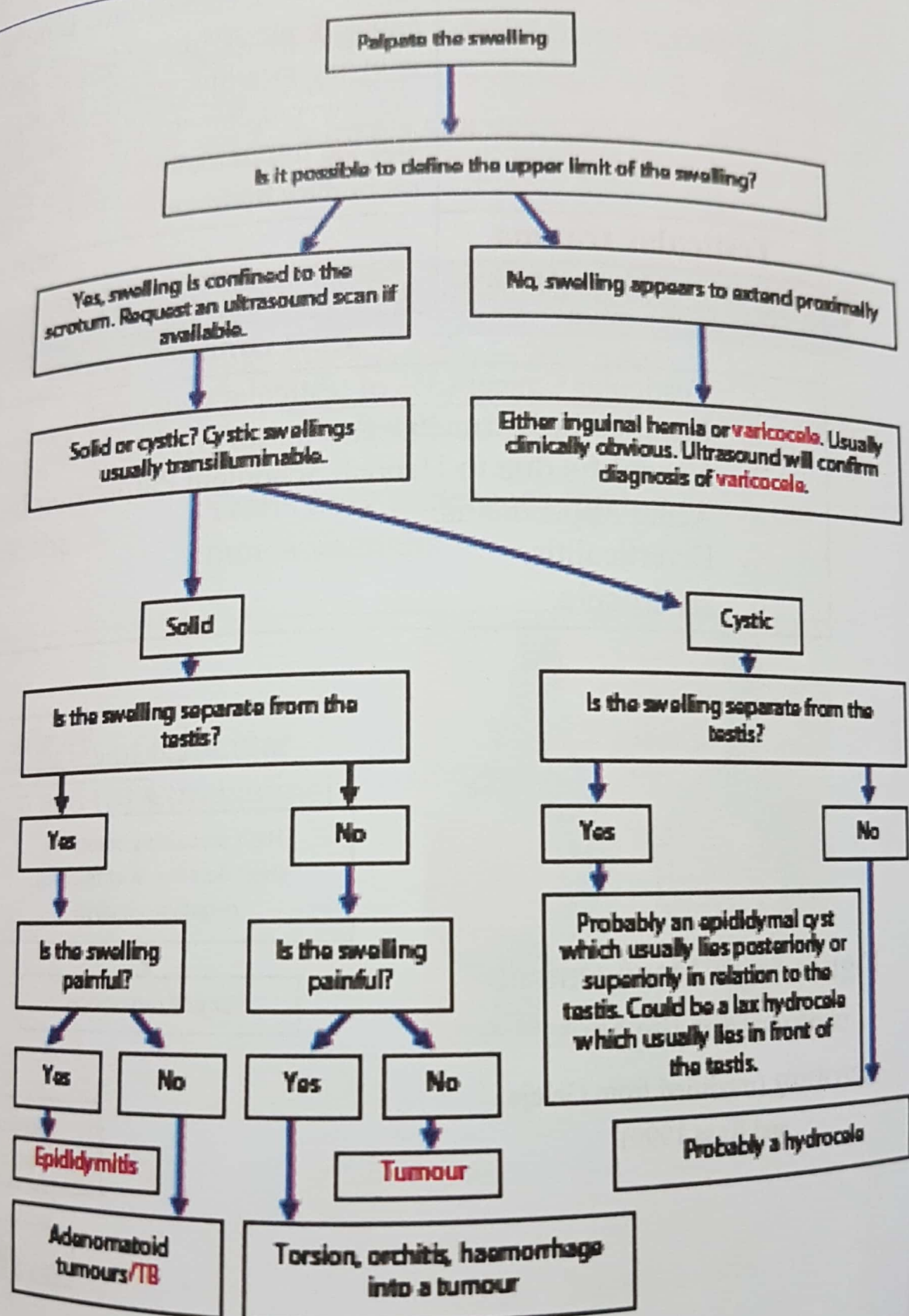
1. Idiopathic in 25% of cases
2. Intermittent Testicular Torsion
3. Post-genitourinary surgery
4. Sperm granuloma (post-Vasectomy)
5. **Varicocele**
6. Testicular Cancer (painless in 60% of cases).
7. Genitourinary infection (e.g. STD)

**Table 4-60: Typical Imaging Findings in the Patient with an Acutely Painful Scrotum**

Diagnosis	Appearance on ultrasonography	Appearance on scintigraphy
<b>Normal testis</b>	Homogenous echogenicity surrounded by thin bright line (the tunica albuginea)	Symmetric homogenous uptake
<b>Testicular torsion</b>	Absent or decreased blood flow	Decreased perfusion on symptomatic side Photopenic lesion on static imaging
<b>Epididymitis/orchitis</b>	Increased blood flow	Increased perfusion

**Figure 4-61: Flow chart for the assessment of scrotal swellings in adults (Mostofi and Sesterhenn 1998)**





**Treatment**

- Immediate surgical exploration. (<6 hours).
- There are 2 possibilities according to the color of the testis:
  1. **Red and bleeding after tunica incision i.e.: testis is viable, orchipexy can be done.**
  2. **Cyanotic and no bleeding after tunica incision i.e.: testis is not viable, orchiectomy is done**

**N.B:** In both conditions, contralateral orchidopexy should be done.

**Fournier's gangrene**

- It is a necrotizing infection that involves the soft tissues of the male genitalia.
- It is a specific form of necrotizing fasciitis.
- General term introduced in 1951 by Wilson to describe infection of soft tissue that involves the deep and superficial fascia, regardless of location.

**Etiology**

- Idiopathic gangrene of the genitalia.
- The necrotizing process commonly originates from an infection in the:
  1. Anorectum.
  2. The urogenital tract.
  3. The skin of the genitalia.

**Pathophysiology:** The following are pathognomonic findings:

1. Necrosis of the superficial and deep fascial planes
2. Fibrinoid coagulation of the nutrient arterioles
3. Polymorphonuclear cell infiltration
4. Microorganisms identified within the involved tissues (Streptococcal species, Staphylococcal species, Enterobacteriaceae species, Anaerobic organisms and Fungi)
5. Air in the perineal tissues

**Presentation**

The hallmark of Fournier's gangrene is intense pain and tenderness in the genitalia.

**The clinical course usually progresses through the following phases:**

1. Prodromal symptoms of fever and lethargy (2-7 days).
2. Intense genital pain and tenderness that is usually associated with edema of the overlying skin.
3. Increasing genital pain and tenderness with progressive erythema of the overlying skin.
4. Dusky appearance of the overlying skin; subcutaneous crepitation.
5. Obvious gangrene of a portion of the genitalia; purulent drainage from wounds.

**Management:** Early aggressive treatment is essential due to its high mortality rate (45%).

- Hospitalization.
- Debridement of necrotic tissues.
- Appropriate antibiotics according to culture and sensitivity.



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## Fracture penis

**Definition:** It is the rupture of the tunica albuginea of the corpus cavernosa. The rupture occurs when the penis is erect because the tissue of the tunica albuginea is thinner during erection and is vulnerable to a sudden increase in the intracorporeal pressure. The urethra and corpus spongiosum may also be affected. The tear is mostly unilateral and transverse.

**Etiology:** It may be due to:

1. Vigorous intercourse especially female supine position.
2. Falling on the erect penis.
3. Rolling over in bed.
4. In an attempts to correct a congenital chordee.
5. In an attempts to place an erect penis back into the pans.

## Clinical picture

### History

1. A popping or cracking sound heard by the patient or his partner.
2. Minimal to severe sharp pain.
3. Immediate detumescence.
4. Deformity.
5. Discoloration of penile skin.
6. Deviation contralateral to the lesion.
7. Symptoms of urethral injury (if present).

### Signs

#### Inspection:

1. Swollen penis.
2. Penile ecchymosis and hematoma.
3. Eggplant deformity (highly diagnostic).
4. Deviation away from the site of the tear.
5. If the urethra has been damaged, blood is present at the meatus.
6. If the Buck fascia is intact, penile ecchymosis is confined to the penile shaft. If Buck's fascia is ruptured, blood and urine extravasates around Colles' fascia, giving a characteristic "butter-fly sign" over the perineum, scrotum, and lower abdominal wall.

#### Palpation:

1. A corporal defect may be palpable but this can be obscured by tenderness, swelling, and hematoma.
2. "Rolling sign", in which clot lying near the fracture site is palpable as a firm, immobile, discrete swelling over which the penile skin can be rolled. This sign appears to be reliably associated with the location of rupture





**Figure 4-62:** Typical S-shaped deformity in penile fracture

### Differential diagnosis

- Penile vascular injuries.
- Urethral injury.
- Mondor's disease.
- Ruptured suspensory ligament.

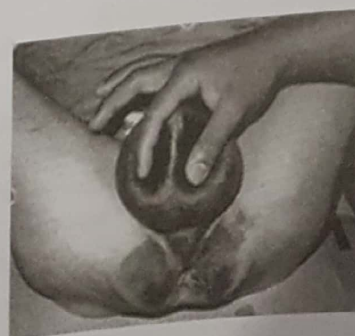
### Complications

- Penile pain at intercourse and Painful erection.
- Erectile dysfunction.
- Penile deviation.
- High-flow priapism.
- Lymphoedema.
- Annular restriction and Penile skin necrosis.
- Psychiatric disturbance

**Table 4-61: Differential diagnosis between penile fracture and lymphedema**

Characteristics	Lymphoedema	Penile fracture
<b>Pain</b>	No (unless cellulitis is present)	Yes
<b>History of recent trauma</b>	No	Yes
<b>Hematoma</b>	No	Yes (if Buck's fascia is breached)
<b>Bleeding from meatus</b>	No	If concomitant urethral tear
<b>Onset of swelling</b>	Slow and progressive	Acute
<b>Underlying condition</b>	Common	No

**Figure 4-63:** Hematoma caused by a penile fracture. The subcutaneous hematoma extending to scrotum and perineum (butter fly sign) indicates that the penile fracture is associated with breach of Buck's fascia





**Figure 4-64:** Genital lymphedema localized to the penis. Due to the recent onset of the condition, the penile skin looks still healthy



### Treatment

#### Conservative

- Bed rest, cold compress for 24 to 48 hours, antimicrobial agents, anti-inflammatory agents and fibrinolytics, such as streptokinase and trypsin.
- Tamoxifen: Inhibition of inflammatory and fibrotic responses. Dose: 20 mg twice daily.
- Colchicine and vitamin E.
- Intralesional Collagenase and calcium blockers.

#### Surgical

- Evacuation of hematoma.
- Correction of associated conditions

### Paraphimosis

It is a condition where the foreskin becomes trapped behind the glans penis and cannot be reduced (that is, pulled back to its normal flaccid position covering the glans penis). If this condition persists for several hours or there is any sign of a lack of blood flow, paraphimosis should be treated as a medical emergency, as it can result in gangrene.

**In adults the cause of paraphimosis is mostly iatrogenic.** It can occur as the result of urethral manipulations such as insertion of a Foley catheter or cystoscopy. If the patient is circumcised properly the reason for a paraphimosis-like appearance of the penis is generally a **constricting ring applied to the penis**, or **in children the reason can be hair wrapped around the penis**.



**Figure 4-65:** Paraphimosis

### Treatment

1. **Manual manipulation of the swollen foreskin tissue:** This involves compressing the glans and moving the foreskin back to its normal position, perhaps with the aid of a lubricant, cold compression, and local anesthesia as necessary. If this fails, the tight edematous band of tissue can be relieved surgically with a dorsal slit or circumcision.
2. **An alternative method, the Dundee technique:** entails placing multiple punctures in the swollen foreskin with a fine needle, and then expressing the edema fluid by manual pressure.

## Penile Mondor's disease (PMD)

**Definition:** It is a rare, self-limiting, benign process with acute presentation characterized by subcutaneous bands in several parts of the body with thrombophlebitis of the superficial dorsal vein of the penis.

### Causes

#### 1. Traumatic

- Frequent severe and prolonged sexual intercourse.
- Penile trauma.
- Use of constriction vacuum devices.

#### 2. Infections

- Sexually transmitted infections
- Long standing candida.
- Distant infections.

#### 3. Surgical

- Repair of inguinal hernia.
- Orchiopexy.
- Varicoselectomy.

#### 4. Tumors

- Cancer in pelvic region.
- Metastatic pancreatic cancer.
- Paraneoplastic syndromes.

#### 5. Others

- Use of intracavernous drugs.
- Abuse of intravenous drugs.
- Tendency to thrombosis and thrombophilia.
- Venous occlusion caused by full urinary bladder.
- Behcet's disease.

### Clinical features

- It is clinically divided in three stages as **acute, subacute-chronic and recanalization** stages.
- The patients present with a **palpable lesion as a thick cord** occurring 24 to 48 hours after a prolonged sexual intercourse or sexually transmitted diseases.
- The lesion is **on the dorsum of penis** in all of the patients.
- The thrombosed vessel is adhered to the penile skin covering it.
- The vessel may appear as swollen and erythematous.

**Figure 4-66:** The palpable thrombotic superficial vein of the penis.





### Differential diagnosis

1. **Peyronie's disease:** Both physical examination and color Doppler US reveal that the plaque.
2. **Sclerosing lymphangitis:** Low-speed, high-resistance flow pattern is observed in the cavernous arteries. This finding of color Doppler US is absent in sclerosing lymphangitis. Furthermore, a folded and irregular hardness is found in sclerosing lymphangitis whereas the thrombosis is palpated in Mondor's disease.

### Treatment

#### Medical treatment

**In the acute stage:** sexual activity should be restricted and Anti-coagulant agents.

**In the subacute and chronic stages:** Creams containing heparin and anti-inflammatory drugs.

**Surgical treatment:** Thrombectomy and resection of the superficial penile vein are applied surgically in the patients' refractory to the medical treatment.

**Testicular tumors:** may present as

1. Acute orchitis like picture.
2. Acute hemorrhage into testicular tumor.
3. Management as any tumor.

### Sclerosing Lymphangitis of the Penis

It is a benign non-venereal lesion that mostly occurs in younger men between 20-40 years of age. Various terms have been used for this condition including non-venereal sclerosing lymphangitis of the penis, circular indurated lymphangitis of the penis and benign transient lymphangiectasis of the penis.

### Clinical appearance

1. A skin colored, serpiginous cord-like thickening on the penis that is of cartilaginous consistency.
2. There are no signs of inflammation. The lesion is painless.
3. Usually the lesions occur shortly (24-48 hours) after sexual intercourse and resolves spontaneously within 2-3 weeks but may last up to 6 weeks.

### Etiology

1. Repeated trauma due to vigorous sexual intercourse or masturbation and subsequent occlusion of lymphatic vessels are most likely the cause.
2. Impaired lymphatic drainage and scarring following circumcision.
3. Idiopathic

**Figure 4-67:** Non sclerosing lymphangitis of the penis appears suddenly as a firm cord like translucent lesion which may almost encircle the penis in the coronal sulcus. The histological findings suggest that it results from fibrotic thickening of a large lymph vessel. It is not an emergency



## Coital headache

**Other names:** coital cephalgia –sexual headache.

**Definition:** Variant of severe headache that occur at base of the skull before orgasm during sexual activity including masturbation.

### Epidemiology

Male: female ratio: 3:1

Age: early 20s.

**Etiology:** Unknown, however may be:

- Psychogenic:
- Organic: with phosphodiesterase or associated brain disorders, aneurysm or tumors.

### Clinical picture

1. Headache.
2. In severe cases: may be neck stiffness, confusion and dizziness.

### Treatment

#### General

1. Reduce heavy sexual activity and masturbation.
2. Exercise.

#### Medical treatment:

1. B blockers may reduce this condition.
2. Indomethacin also can be tried.

### Differential diagnosis of penile sensation loss

1. Pudendal nerve entrapment.
2. Myxedema.
3. Amyloidosis.
4. Trauma.
5. Diabetes.
6. Vasculitis.
7. Sarcoidosis.
8. Leprosy.
9. HIV/AIDS.
10. Alcoholism.
11. Vitamin B12 deficiency.
12. Porphyria.
13. Medications: as Colchicine, Vincristine, Thalidomide, Isoniazid, Hydralazine and Metronidazole.
14. Psychogenic